

XV. NOTES ON SOME AMERICAN BUTTERFLIES, MAINLY  
RELATING TO THEIR CLASSIFICATION  
AND NOMENCLATURE.

PART I. PAPILIONIDÆ, PIERIDÆ, NYMPHALIDÆ  
(DANAINÆ).

BY W. J. HOLLAND.

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INTRODUCTORY.

I am engaged in revising and rewriting *The Butterfly Book*. The number of plates in the forthcoming edition will be increased from forty-eight to seventy, or more. My intention is to give figures of the types, or typical specimens, of all the species, which have been described or found to occur in Boreal America, many of which were not included in the earlier imprints of the book. I am at the same time correcting errors in nomenclature and classification which are found in the first edition.

For more than thirty years *The Butterfly Book* has been the only manual published covering the field north of Mexico and the Gulf. Nearly sixty thousand copies have been sold. In view of these facts I feel justified in bringing out a new edition, as nearly complete as possible. My desire is to provide the rising generation of students and lovers of nature with a work, which will enable them to satisfactorily pursue their studies, without being forced to amass a library of books, as I was compelled to do in my earlier years, when I began to study butterflies.

Of course it has been necessary for me to study everything which has been written upon the subject. In the course of these investigations I have encountered what I conceive to be occasional errors in identification made by fellow students, as well as not a few nomenclatorial innovations, which do not appeal to me as being worthy of general acceptance. Some of these things, as well as others, are discussed in the following pages.

A great deal of confusion was introduced into the nomenclature of the diurnal lepidoptera by the unfortunate action of one of my most

valued friends, the late Dr. Samuel H. Scudder, when in 1873 he reprinted Hübner's "Tentamen." Fortunately the status of this miserable little sheet has been settled, let us hope for all time, by the action of the International Commission on Zoölogical Nomenclature. Not only was the "Tentamen" not *published* as a "zoological record," but, as I myself have had occasion to point out (see *The Entomological News*, Vol. XXXIX, 1928, pp. 50-59) it has been thoroughly misunderstood and misinterpreted. Hübner addressed it merely as "as a note of inquiry" to certain of his scientific friends, and in it he was not proposing *generic* names, but the erection of what he called "*stirpes*," equivalent in modern parlance to what we understand as "*families*." The final action of the International Commission on Zoölogical Nomenclature has cleared the sky.

There are, however, a number of questions which arise as to generic and family-names, which still involve dispute. In the attempt with overwhelming zeal to strictly apply "the law of priority" a number of old and practically obsolete generic terms have recently been unearthed from their hiding-places in obscure and long forgotten documents. It is a question whether such summons from the tombs of the forgotten are justifiable. Where a name has been in current and almost universal use for a period of a century or more, and has become imbedded in the literature, including dictionaries and encyclopædias, it is exceedingly questionable whether it is wise, even if now and then a case can be made out for the older and forgotten term, to substitute it for a term which has been hitherto universally accepted. Scientific language is subject to the "law of usage" as well as to the "law of priority." Terms, which have become universally understood and universally used, should not be disturbed, except for the most cogent reasons.

I am reminded, that, when I was a student of Greek more than sixty years ago, our learned Professor called attention to the fact that the words "Telegraph" and "Telegram" did not conform to the requirements of the Greek language in its "Attic purity." The two first syllables, "tele" were derived from the Homeric dialect. The Professor stated that "had the man, who coined the words, known Greek as well as he understood electricity, he would have used the words *prosograph* and *prosoqram*, or *porrograph* and *porrogram*." But he did not! The world today would laugh the proposition to scorn, if some Greek purist were to demand that the words "telegraph" and "tele-

gram" should be abolished from the vocabularies of mankind and "prosograph" and "prosogram" substituted for them. Along this line of thought I feel that the recent attempt, for instance, to substitute the name "Asciadæ" or "Asciidæ" for the family-name "Pieridæ" is ridiculous. Every lepidopterist the world over knows what is intended by the noun "Pieridæ," which for nearly a century has been in use. It is only recently that the new-fangled term "Asciidæ" has been put into print. It should be relegated to the rubbish heap of synonyms. In my humble judgment such innovations are wholly unnecessary and unwarranted. They may please those who invent them, but annoy everybody else.

A good deal of time and a good deal of ink and paper has been consumed in recent years by some of my learned friends, who are engaged in what they call "the fixation of types." I fear that in a number of cases these "fixations" leave matters "in a fix." In some cases I am quite certain that positive errors have been committed. In other cases I feel that the work, while possibly capable of argumentative defense, has been carried to extremes, which complicate, rather than clarify the situation. I do not overlook the value of determinations based upon a knowledge of specimens, which were actually before the writer when he wrote his descriptions. In multitudes of cases descriptions do not describe, and least of all those of the fathers of our science, and therefore, it is necessary when possible, to find the thing itself, and make sure what the writer intended to describe. Nevertheless I keenly feel that a good deal of the time-consuming work which has been done, has been more or less fruitless, and the results are merely the expression of the arbitrary opinion of an individual. I am particularly moved with feelings of disapprobation, when I find some of my learned colleagues stating in so many words and guiding their action by the dictum that species are not "specific organisms" but "specific names." This is a recent innovation in thinking in reference to the subject, which I repudiate. In scientific investigations we are dealing with *things*. The name is the "*tag*" which we attach to the thing. The most important step is to be sure what *thing* an author intended by the name he gave, as well as the name he may have with justice or erroneously applied. There has been an immense amount of jumbling of names and the nomenclatorist cannot reach certainty, except by ascertaining at the outset what is the *thing*, to which the author intended to give the name. The *thing* is

the *reality*; the *name* is only a *sign* for the thing. If a wrong name has been given to a thing, let us ascertain the fact, but do not let us undertake to *invent new names* because a wrong name has been given to a thing, when *valid names already exist* for that thing. The case is quite analogous to what often happens in our courts of justice, where men are found to have passed under what is styled an "alias." The judge brushes the "alias" aside and sentences the prisoner under his real name. He does not rebaptize the culprit under another name before sentencing him. Judges do not have baptismal fonts alongside their benches. But this is exactly what some of our nomenclatorists have recently been doing. I see no reason why entomologists, discovering that a species has been designated by a wrong name by some author, should arrogate to themselves rebaptismal rights, when by a little effort the identity of the thing before them can be ascertained, as well as the fact that it *already has a valid scientific designation*.

Another cause of confusion in the specific names of North American butterflies has recently been introduced through what I regard as an inconsiderate and over zealous application of Art. 35 of the *Code of Rules of Zoölogical Nomenclature*. Article 35 of the Code is as follows: "A specific name is to be rejected as a homonym when it has previously been used for some other species of the same genus."

It is well known by all students that the older authors, following Linnæus, recognized but one genus for the diurnal lepidoptera, to wit: *Papilio*. The result was the aggregation under this one generic name of a large number of species, well over a thousand, described or figured on the pages and plates of Linnæus, Clerck, Fabricius, Cramer, Drury, Smith and Abbot, and others. The genus *Papilio*, at the time of which I am writing was equivalent in value to the present Suborder *Rhopalocera*. Students, including Linnæus himself, recognized the incongruities of this procedure. Fabricius, the pupil of Linnæus, following Linnæus, subdivided the all-inclusive genus *Papilio* into groups, as everybody knows: "Equites Troes;" "Danai Candidi;" "Danai Festivi;" "Heliconii;" etc. These subdivisions are *nascent genera*, if I may so call them. Then quickly there arose genera in the modern and restricted sense, in which writers placed the species formerly "lumped" under the all-inclusive name *Papilio*. New families were established. The old genus *Papilio* in a short time was split into many genera, distributed into various families. To these the species named by the earlier authors were transferred, but their

specific names were carefully preserved, when identification was possible.

The evolution which took place in nomenclature, to which I have just alluded, appears to have been disregarded to some extent by some of my valued friends, Prof. Lindsey, Messrs. Barnes and Benjamin, and others. Barnes and Benjamin in their recently issued *List of the Diurnal Lepidoptera of Boreal America North of Mexico* on p. 4, give the following:

“† an unavailable name, usually a homonym.”

An examination of cases, in which the commonly accepted specific name is prefixed by a double dagger and another name is substituted, has often filled me with astonishment. As an illustration of what Messrs. Barnes and Benjamin have done, I may cite, as an instance, the case of the well known Hesperid, originally described by Smith and Abbot in 1797 as *Papilio lycidas*. This species, which for more than a century and a quarter has been known to all lepidopterists under this specific name, is now declared by Barnes and Benjamin to be in need of rebaptism, because, forsoothe, Cramer in 1779 had given the name *Papilio lycidas* to a true Papilionid (in the modern sense) which occurs in South America. But the Hesperid *Papilio lycidas* S. & A. is said by these authors to be closely related to the species *tityrus*, which, as early at least as 1793, had been placed by Fabricius in the genus *Hesperia*, subdivision *Urbicola*. It is now allocated to the genus *Achalarus* Scudder.

It seems to me in view of the definite development in classification, which took place over a hundred years ago, to be a wholly unnecessary procedure to hark back to the days of the *very infancy* of entomological nomenclature and to apply Art. 35 of the comparatively recently created “Code” to a case like this. The *Hesperiidæ* are as different from the *Papilionidæ* as Chipmunks are different from Tigers among the Mammalia. No good end whatever is subserved by the course adopted by my friends, upon whose work I am animadverting. When for one hundred and thirty-three years (to be exact) a specific name has been universally accepted for a species, the identity of which is in no manner in doubt, it is sheer violence to change the name, because it happens to be discovered that the same specific name was applied to an insect, which for one hundred and thirty-seven years has stood in another genus and in another family. This is a case in which obedience to “the letter” of a recently enacted law, which is properly

observed in later times under different conditions, "killeth." I, for one, am not such a strict legalist as to make retroactive a regulation, which, perhaps proper enough today, was unheard of at the time when the fathers of our science were engaged in untangling the mess created by the universal employment of the generic term *Papilio* for every butterfly upon the globe.

The laws governing "family-names" are as yet, so far as expressed in any code, more or less ill-defined. There is disorder and confusion in the application in practice of the scanty regulations which exist. The matter is ably discussed in the paper presented by Prof. A. L. Melander of the College of the City of New York at the Fourth International Entomological Congress at Ithaca, which has just appeared in the Transactions of the Congress, Vol. II, pp. 657-664. Family-names are quite as important as generic names. They should in the interest of science be "stabilized," as Melander has cogently pointed out. A stable, not a fluctuating, nomenclature is a primary requisite, antecedent to all intelligent scientific study and discussion. For myself I may say that I deprecate the continuous changing of family-names, under the prescription which has obtained vogue among a few that the "name of the family should be derived from the name of the oldest valid genus contained therein." There is no such "law" in any accepted code. The nearest approach to it is the "recommendation" of Strickland in 1842 that 'the oldest generic name should be employed by an author when erecting new family-names.' But this does not mean that old and long accepted family-names are to be *changed*, whenever it is discovered that an older generic name is included under the accepted family-name. Strickland's "recommendation" is now superseded by the International Code of Zoölogical Nomenclature, which is silent upon the subject. Family-names have been erected in the past and received wide, in many cases universal, acceptance for a hundred years; then comes forward some delver in obscure and forgotten tracts, announcing that he has found a paper, extant in only one or two copies on the shelves of inaccessible libraries, containing a name older than the one hitherto used as the basis of the family-name, and proceeds to accordingly change the family-name. Such unnecessary procedures should be disallowed by common consent. They only breed misconception. I am growing more firm in my conviction that the time has come when in entomological science, not to speak of the other branches of zoölogical science, the movement, already begun, to

establish "*nomina conservanda*," should be sedulously prosecuted. In this movement lies our greatest hope for the attainment of a "stable nomenclature."

Family PAPILIONIDÆ.

SUBFAMILY PAPILIONINÆ.

Genus PAPILO Linnæus.

**Papilio devilliersi** Godart.

Barnes and Benjamin in their "List" star this species, thereby implying its doubtful occurrence in the United States. However, there are several specimens in the Academy of Natural Sciences in Philadelphia, which undoubtedly were taken in southern Florida, thus confirming the statement of Boisduval and Leconte that it is found in that State.

**Papilio ponceana** Schaus.

This species has by some compilers been listed as a variety of *P. aristodemus* Esper. It is indeed allied to *P. aristodemus* and belongs to the same group, but it appears to be so different and so well defined and constant in its features, that it should be accorded specific rank. At a glance it reveals itself as distinct from typical *P. aristodemus*.

**Papilio daunus** Boisduval.

In 1836 Boisduval named and described a *Papilio* (in the restricted and modern sense) from California, calling it *Papilio daunus*. Barnes and Benjamin in their *List of the Diurnal Lepidoptera of Boreal America*, etc., p. 5, prefix a double dagger to the name *daunus* Boisd., sinking it as an "unavailable name," because Cramer had used the same specific name for a species of Hesperid, placed by Cramer himself in the *Urbicolæ*. Deprived thus of the name, which ever since 1836 had been consistently used by all authors, Barnes and Benjamin apply to it the name "*multicaudata* Kirby." This is certainly a most remarkable procedure.

In 1884 in "Papilio," Vol. IV, pp. 103-4, the late W. F. Kirby wrote an article calling attention to the fact that he had unearthed in the library of the British Museum of Natural History a printed wrapper enclosing some unnumbered pages and a few plates. The front page of the wrapper bears the title: "Lepidoptera Americana," etc., and gives as the name of the author, Titian R. Peale, the well known

artist and proprietor of "Peale's Museum" in Philadelphia. On the third page of the wrapper is a prospectus, announcing the intention of Peale to publish a work under the above name to be accompanied by one hundred colored plates. The front cover-page shows that it was printed in 1833. Plate I, unaccompanied by text, gives an uncolored figure of a butterfly named *P. multicaudata* on the plate. This Kirby in his paper identifies as being *Papilio daunus* of Boisduval. Rothschild and Jordan in their great monographic "Revision of the American Papilios" (Nov. Zoöl., XIII, 1906, p. 589), cite as the only synonym known for *Papilio daunus*, "*Papilio multicaudata* Kirby (ex Peale ined.) *Papilio* IV, p. 104 (1884) (= *daunus* Boisd.)."

If Kirby's account of Peale's work is to be regarded as its first publication, *multicaudata* must be treated as a synonym, for Boisduval published in 1836 and Kirby in 1884. If the name *multicaudata* is to be employed as valid it should not be credited to Kirby, who did not republish Peale's paper, but merely wrote an account of it, but to Peale himself (1833). However, according to all established rules and precedents Peale's effort, whatever he intended to do, cannot be accepted as having been "published." I agree in this with Rothschild and Jordan. So far as I have been able to ascertain, there are only two copies of Peale's pages and partly finished plates in existence: the one (described by Kirby) in the Library of the British Museum of Natural History; the other, less complete, in the Library of the Academy of Natural Sciences in Philadelphia. Mr. W. J. Fox, the Librarian of the latter institution, has kindly written me that their copy "consists of fourteen pages of text relating to four colored plates: *Saturnia promethea*, female; *Saturnia promethea*, male; *Lasiocampa io*; *Danaus plexippus*. These plates are numbered 3, 4, 5, and 7 respectively. The other six plates referred to by Kirby I take were intended for a later part of the work."

The substitution of the name *multicaudata*, with attribution to Kirby, only known from the unfinished plate of Peale in the British Museum, for the name *daunus* Boisd., which has been consistently used for nearly a century by scores of authors, is wholly indefensible. The fact that Cramer had given the same specific name to a Hesperid, located by Fabricius in the *Urbicolæ*, long before Boisduval wrote, does not in my opinion convert the name of the Papilionid into a "homonym," thus preventing its use.

By the by, as *Papilio* is a masculine noun, the specific name



should in any event be written *multicaudatus* and not *multicaudata*. Peale forgot his Latin, if he ever had any.

#### WHAT IS THE TRUE SCIENTIFIC NAME OF THE PAPAW-BUTTERFLY?

Aurivillius in his "Recensio Critica, Lep. Mus. Lud. Ulr.," p. 30, says: that 'the name *ajax* should be given to the summer and fall forms of the species commonly known as *ajax* by authors.'

Rothschild and Jordan in their *Revision of the American Papilios* (Nov. Zoöl. XIII, p. 414) say:

"If Linné had been quite precise in the application of his names, fixing each name to one particular specimen or a previously published figure or description, we should not now be in such a peculiar predicament with regard to his *Papilio ajax* as we are placed in. As said above, the description of this *P. ajax* and the two references given beneath it contradict one another, each applying, without the slightest doubt, to a different insect. The description fits the *Papilio* described later as *polyxenes* by Fabricius and as *asterius* by Cramer, and does not agree with the species which is generally known as *P. ajax*. If we had here to do with some little-known insects, we should hardly hesitate to apply the name *ajax* L. to the insect figured as such by Clerck—namely, *polyxenes* Fabr.

"However, there is an enormous literature on both these insects, and the replacement of the names *polyxenes* or *asterius* by *ajax* would lead to endless confusion. The whole mischief is occasioned by Linné's reference under *P. ajax* to Edwards's figure. Now, this reference Linné himself removed to *P. protesilaus* in 1764.\* Under this same name *protesilaus* we find in 1758, 1764, and 1767 a reference to a figure in Catesby which represents the same insect as Edwards's. And in 1767 Linné described *Papilio xuthus* as being similar to *P. ajax*, which would have been quite ludicrous if Linné's *ajax* had been the insect now so called. There is a remote possibility that Linné described *ajax* from a male of *P. glaucus*. For this reason we have thought it advisable to overcome the difficulty by rejecting the name *ajax* altogether on the ground of its being of doubtful application.

"The name *ajax* does not appear in Linné's *Museum Ludovicæ Ultricæ*; this is unfortunate, since the descriptions given in that work

\* It does not appear under *protesilaus* in the edition of 1767 and later.

are far superior to those of the *Systema Naturae* of 1758 and 1767."

A perusal of the foregoing remarks of Aurivillius and of Rothschild and Jordan have led me to a re-examination of the entire subject *de novo*.

Linnæus in the *Systema Naturæ*, Edition X, 1758, p. 462, prints the following:

"Ajax. 26. P. E. alis obtuse caudatis concoloribus fuscis; fasciis flavescens, angulo ani fulvo. *Raj. ins.* III, n. 2. Edw. *av.* 34. *Habitat in America boreali.*"

The foregoing description is extremely vague, "*dubia*," as Aurivillius calls it. Literally translated it is: "Papilio Eques with obtusely tailed wings uniformly fuscous, with bands inclining to yellowish, the anal angle fulvous."

The description given by Linnæus really does not describe. He, however, cites Ray's *Insects* and Edwards's *Birds*. An examination of Ray shows that the insect he had in mind was the one figured by Mouffet in his *Theatrum Insectorum*, and this really is the picture of the butterfly, the original drawing of which I reproduced in the *Scientific Monthly*, Vol. XXIX, pp. 45-48, July 1929, as "the first picture of an American butterfly." It in fact is a crude, but recognizable, drawing of *Papilio turnus*. Its identity established, and it being therefore, as the Germans say, "ausgeschlossen," we must turn to the figure given by Edwards.

A reference to Edwards's 34th plate in Vol. I of his "Natural History of Uncommon Birds," (1743), reveals a very good figure of the seasonal form of the Papaw-butterfly, which in 1865 was designated as *telamonides* by the Felders. The figure given by Edwards can be exactly matched by numerous specimens in my possession. Edwards says: "This fly was given me by Dr. R. M. Massey, who told me he had it from Maryland."

Linnæus, *l.c.* p. 463, prints the following:

"Protesilaus 29. P. E. alis caudatis subconcoloribus albidis; fasciis fuscis; unica subtus sanguinea, angulo ani rubro.

*Pel. mus.* 50. n. 502.

*Sloan. jam.* 2, p. 218, t. 239. f. 1, 2.

*Mer. surin.* 43. t. 43.

*Seb. mus.* 1. t. 11. f. 2.

*Catesb. car.* 2. t. 100.

*Habitat in America septentrionali.*

*Simillimus Podalirio Europæ australis & Africa; an satis diversus?"*

A scrutiny of the references given by Linnæus indicates that the second, third, and fourth refer to neotropical insects. The first and fifth refer to recognizable figures of the Papaw-butterfly, especially the figure given by Catesby. The second volume of Catesby's work appeared originally in the year 1743; two subsequent editions appeared under the editorship of George Edwards, a well known ornithologist and naturalist of his day. The last edition, issued in 1771, is before me. Referring to the insect cited by Linnæus accompanying Pl. 100, I find the following:

"*PAPILIO caudatus* Carolinianus; fuscus, striis pallescentibus; lineæ et maculis sanguineis subtus ornatus. Pet. Mus. p. 50. No. 508.

"The back of this Butterfly is black, as is the ground of the four wings: several white lists\* cross the upper wings obliquely: the two under wings have likewise two white lists extending downwards: they have besides four white spots, with one red and a blue spot in each wing; the under side of the wing, besides several white lines, has two red, and three blue spots."

Cramer, Pap. Exot. Vol. I, t. 98, figs. G, H, in 1779 applied the specific name *marcellus* to the insect figured by Catesby and named by Edwards *carolinianus*. The name *carolinianus* has, therefore, priority over *marcellus* Cramer. This fact appears to have been entirely overlooked by Kirby, Rothschild and Jordan, and other investigators.

In Gmelin's edition of Linnæus' Systema Naturæ, Vol. V, 1788, p. 2238, *marcellus* Cramer is listed as a synonym for *ajax* Linnæus.

A careful study of all the editions of the Systema Naturæ since the publication of the Tenth Edition fails to disclose that Linnæus, or subsequent editors of the work, accepted Clerck's figure of *ajax* (*polyxenes* Fabricius), as equivalent to *ajax* Linnæus.

The action of Messrs. Barnes and Benjamin in substituting *ajax* in their "List" for the familiar name *polyxenes* on the strength of Clerck's figure published in his *Icones* appears to me to be a very rash and wholly unnecessary innovation, in face of what had been already said by Rothschild and Jordan in regard to the "endless confusion," which would result from such a course. Clerck (1764) and Barnes and Benjamin (1926) are the only writers who can be cited for such employment of the name *ajax* in the annals of science covering one hundred and sixty-two years.

\*A now almost obsolete English word for a *stripe*, or *band*.

After a careful review of the subject from all angles I fail to agree with my good friends, Messrs. Rothschild and Jordan in discarding the name *ajax*. The reference by Linnæus to Edwards's figure, which is undeniably that of our common Papaw-butterfly, seems to me to furnish the best clue to a way out of this nomenclatorial muddle, especially in view of the fact that this concept of what really is the species, which should be designated by the specific name *ajax*, has run down through almost the entire literature since Linnæus wrote, or his works were edited by others. To my mind the best alternative is to accept and employ as *nomen conservandum* the name sanctioned by nearly a century and a half of use. I come back after a faithful study of the subject to the opinion of Dr. Aurivillius already quoted.

The synonymy of the species works out as follows:

**Papilio ajax** Linnæus.

(Type: Fig. given by Edwards, "Nat. Hist. Birds," 1743, Pl. 34, cited by Linnæus) = form *telamonides* Felder (1865).

*P. protesilaus* L. (partim) (L. cites Petiver's and Catesby's figures = *ajax* auctorum).

Form *carolinianus* George Edwards, in Catesby, "Nat. Hist. Carolina, etc." 3rd Edit., Vol. II, 1771, p. 100, pl. 100.

= *P. marcellus* Cramer, Lep. Exot., pt. II, 1779, p. 4, pl. XCVIII, figs. F, G.

Family PIERIDÆ (Piérides Boisd., 1836)

Type of Family: Genus PIERIS Schrank.

Genotype: *P. rapæ* Linnæus.

SYNONYMS: *Asciidæ* Hampson, 1918. (Type *Ascia* Scopoli, genotype *crataegi* L. *vide* Hampson). But *crataegi* is type of *Aporia* Hübn. *Asciidæ* Lindsey, 1922. (Type *monuste* L., *vide* Scudder.)

I rebel vigorously against the substitution of the newly coined family-name *Asciidæ* for the well known family-name *Pieridæ*, which has been in use among all lepidopterists since 1836. The family-name *Asciidæ* founded upon the genus *Ascia* of Scopoli (type *monuste* L., Scudder) is a recent invention, wholly unfamiliar in the literature of our science, and is an innovation for which there is no legal authorization. Names, including *family-names*, are vocables, by which things are known. Every student of the lepidoptera knows what is meant by

the *Pieridæ*. The name is firmly imbedded in the whole literature of entomology; is found in every dictionary of repute, and to substitute for it the newly invented term *Asciidæ* seems to me to be a wholly unnecessary procedure, especially in view of the well known fact that there is, to quote Dr. A. L. Melander (Trans. Fourth Entomological Congress, Vol. II, p. 660), "No authorization for the mandatory election of the earliest described genus as type for a family, other than the recommendation in the original Stricklandian Code of 1842," replaced by the "International Code," which is silent on the subject. It is an obsession with some recent writers that they are under compulsion to change family-names, whenever they can find an older generic name as a pretext for so doing. But there is no law in force today, which makes it compulsory to adopt the oldest generic name as the basis for family-names. The proposed change from *Pieridæ* to *Asciidæ* is "a work of supererogation." The botanists are wiser in this matter than the zoölogists. Article 20 of the Botanical Code provides that 'names which have come into general use during the fifty years after publication shall be *nomina conservanda*.'

Is it too much for an entomologist to demand, in the absence of any rule to the contrary, that family-names, consistently used for from seventy-five to a hundred years without challenge, shall be conserved? Is our nomenclature to be completely upset every now and then at the behest of an innovator, applying so-called "laws," which exist only in the imagination?

Besides, *Ascia* Scopoli (type *monuste* L., Scudder) is not strictly speaking congeneric with *Pieris* (type *rapæ* L., Schrank). The *Pieridæ* of the *monuste*-group may be macroscopically distinguished from those of the *Rapæ*-group by their more robust structure, differently shaped primaries, and microscopically by other features. *Ascia* is not strictly synonymous with *Pieris*, though so treated by some authors.

#### WHAT IS THE TRUE SCIENTIFIC NAME OF THE FLORIDA WHITE?

In the first edition of *The Butterfly Book* I placed this species in the genus *Tachyris* Wallace, which is now conceded to be synonymous with *Appias* Hübner. In 1870 Butler erected the genus *Daptonoura* for the neotropical group of Pierids, which are allied to the oriental group now referred to *Appias*. Butler made *Papilio lycimnia*

Cramer the type of his genus *Daptonoura*. However, Swainson (Zoöl. Ill., 2d Series, Pl. 79, 1831-2), had already erected the genus *Melete* with *lycimnia* (*limnobia*) as type. Butler's genus *Daptonoura* falls before *Melete* Swainson. A careful study shows that the neotropical butterflies belonging to *Melete* (*Daptonoura* Butler) are distinct from those which are properly referred to *Appias* Hübner, not only differing in the neuration of their wings, but also genitally. I therefore propose to employ Swainson's generic name for the neotropical species, of which there are a number, only one of which, *ilaire* (Godart), is found within the limits of the United States. The name of this well known butterfly, therefore, is *Melete ilaire* (Godart).

Röber in Seitz has sunk the specific name *ilaire* Godart as a synonym of *drusilla* Cramer. (Pap. Exot. II, p. 21, pl. CX, fig. C). I question the correctness of this determination in view of Cramer's statement that the insect, which he figured, came from Batavia in Java, and further because Cramer's figure does not at all agree with specimens of *ilaire*, but does show considerable likeness to the females of certain oriental species of *Appias*.

A curious error was made by Röber in this connection in naming the female I figured in *The Butterfly Book*, Pl. XXXV, fig. 5, "*Appias drusilla* ab. ♂, *hollandi*." Unfortunately Dr. Röber's statement that the insect figured by me is a *male* is quite incorrect. It is a female, as the genitalia show; and is the usual form of the female occurring in southern Florida, as long series of specimens reveal. It had already been named var. *neumægeni* by Skinner, before Dr. Röber rebaptized the insect under the name of the present writer.

The synonymy is as follows:

***Melete ilaire* (Godart).**

SYNONYMS: *mysia* (Godart); *margarita* (Hübner); *molpodia* (Hübner); *drusilla* Röber (not Cramer).

Var. *poeyi* (Butler). Small Cuban form.

Dimorph. ♀, *neumægeni* (Skinner) = *hollandi* (Röber). Florida.

Genus *COLIAS* Fabricius.

(Genotype *hyale* L.)

Synonym: *Eurymus* Horsfield, Cat. Lep. East Ind. Mus., 1829, pp. 129-30 (Type *hyale* L.); Swainson, Zoöl. Ill., (2) Pls. 60, 70 (1831) (type *philodice* Godart). *Eurymus* is preoccupied in the *Coleoptera* by Rafinesque, Analyse de la Nature, etc., p. 117, 1815 (Cf. Sherborn, Index Animalium 1801-50, p. 2247).

Horsfield in his "Catalogue &c," published in 1829, employs the generic name *Eurymus*, which he tells us 'had been given him by Swainson about eight years previously.' The name cannot be credited to Swainson, for the latter did not employ it in his published writings until 1831. His use of it, perhaps in labelling specimens in his cabinets, did not constitute "publication," and in spite of the profuse thanks which Swainson showered upon Dr. Horsfield for adopting his "manuscript name" (Cf. Zoöl. Ill., 2d Series, Vol. II, Pl. 60), Horsfield must be accepted as the author of the name. But the name is preoccupied in the *Coleoptera*, a fact which had escaped the notice of Swainson, Horsfield, and Scudder. The name falls as *nomen preoccupatum*.

I see no good reason for rejecting the name *Colias* originally used by Fabricius (1807) for the species *palæno*, *hyale*, *glaucippe*, *rhamni*, and *cleopatra*. The species *rhamni* became the type of the genus *Gonepteryx* Leach in 1815, one hundred and fifteen years ago, and *cleopatra* went with it, the two being congeneric. The oriental species, *glaucippe*, was transferred to the genus *Hebomoia* by Hübner in 1819 (?). This left *palæno* and *hyale*, which are congeneric, in *Colias*. But it is objected that Latreille, who in 1809 included in *Colias* the species *rhamni*, *cleopatra*, and *hyale*, in 1810 only cites *rhamni* as the type of a "*Coliade*." It is claimed that this restricts the generic name *Colias* to the species *rhamni*, which is not according to modern views congeneric with *hyale*. But did Latreille really intend to make such a narrow restriction? I very much doubt that he did. Publishing in 1809 the genus *Colias*, according to Latreille himself, included the species *rhamni*, *cleopatra*, and *hyale*. Publishing the next year he only cites the first of these species as a "*Coliade*" but fails to make provision for *hyale* in another genus. According to my view his action in the "Considerations" in 1810 should be interpreted in the light of his fuller statement published the year before in his *Genera Crustaceorum et Insectorum, etc.*, Vol. IV, p. 204. When Leach in 1815 took *rhamni* as the type of his new genus *Gonepteryx*, he left *hyale* in the genus *Colias* and accordingly distinctly specifies *hyale* as the type of the genus *Colias*, from which he had removed *rhamni*.

This status of the case was accepted as fixed by almost all authors and students, including Scudder himself as late as 1872. Then Scudder in 1875 reversed himself, saying that *rhamni* must be accepted as the type of *Colias*, because of the action of Latreille in 1810. Scudder's reversal of himself has since then been almost universally ignored, and

little or no attention has been paid to it. Almost all scientific as well as popular books on butterflies recognize *Gonepteryx rhamni* as the name of the "Brimstone," and the "Clouded Sulphur" as *Gonepteryx cleopatra*.

The employment of *Eurymus* for the genus by Horsfield in 1829 must be disregarded, as has been already pointed out, because of the preoccupation of the name in the Coleoptera.

The generic name *Colias*, sanctioned by use for much more than a century by almost all students and writers, "is good enough for me." It is currently employed by almost all authors throughout the world to designate the "Sulphurs."

#### Genus ASCIA Scopoli.

*Ascia* Scopoli may be properly used as the generic name for the species *monuste* Linnæus, and some allied forms found in the American tropics. They are separable from the boreal species by the different outline of the primaries and their more robust structure.

#### Genus PIERIS Schrank.

(Type *Papilio rapæ* L.)

The genus should be restricted to the smaller and more delicately formed insects, generally referred to it, such as *rapæ* (L.), *napi* (L.), *beckeri* (Edw.), *occidentalis* (Reak.), etc.

#### Genus EUREMA Hübner (1819).

The type of this genus is *delia* Cramer (*Danaï candidi*). Barnes and Benjamin in their list correctly cite *delia* Cram. as the genotype, but prefix a double dagger to the name *delia* adding "(nec D. & S.)." After a study of the facts in the case this appears to be an instance in which the application of Art. 35 of the Code seems to me to lead to confusion. Denis and Schiffermueller (Wiener Verz., p. 179, No. 6, 1776) gave the name *Papilio delia* to an insect which they separated from the true *Papilios* (*Papiliones Equites* L.) and allocated to the subdivision to which they applied the name "*Papiliones variagatæ*" (sic) equivalent to the genus *Melitæa*, including the species *phæbe*, *maturna*, *dictynna*, *cinxia*, et al. *P. variegata delia* D. & S. is a synonym for *Melitæa cinxia* (L.) as every student knows. Cramer, Lep. Exot. III, 1782, p. 144, Pl. CCLXXIII, fig. A) describes and depicts



a species as *Papilio delia*, which he locates among the *Danai candidi* = *Pieridæ*. It seems to me to be an ultra-rigid and uncalled for application of the rule governing homonyms to make the name *delia*, applied by Cramer to a well-known *Pierid*, a homonym because Denis and Schiffermueller gave the same specific name to a "*Papilio variegata*" i.e. to a *Melitæa*. Such upsetting of well known names under the application of a modern and hitherto unconstrued rule seems to me, at least, to be uncalled for. The substitution of Hübner's specific name *demoditas* I regard as a violation of the "everlasting fitness of things." The specific name *daira* Godart perhaps has precedence over *demoditas*, as is pointed out by Klotz (Ent. Americana, New Series, Vol. IX, No. 3, 1928, p. 127). But I cannot help feeling that to treat *delia* Cram. as a homonym of *delia* D. & S. is such a strained and unnecessary procedure, that I shall conserve in my work the specific name given by Cramer and sanctioned by constant use for at least a century. What is the use of changing names, the significance and application of which are thoroughly understood by all careful students and experts in this branch of science, because both forms were originally called *butterflies* (*Papiliones*) but, even thus, located in different categories (Nascent genera)?

Genus *GONEPTERYX* Leach (1815).

(Synonym *Amynthia* Swainson, 1831-32).

Swainson in his Zoölogical Illustrations, 2nd Ser., Pl. 65 (1831-32) erected the genus *Amynthia* and cited *merula* (recte *mærule* Fabr.) as the type. On the plate he depicts *swainsonia* (Leach MS.). But this name is a synonym for *clorinde* (Godart).

Most authors have sunk *Amynthia* Swainson as being synonymous with *Gonepteryx* Leach. I strongly sympathize with this view. Swainson says that the two genera are separated "by the peculiar construction of the feet," but fails to point out in what these differences consist. I have made careful examination of the feet of *Gonepteryx rhamni* and *Amynthia mærule* and *A. clorinde*. The only differences I can detect are that in the two American insects the first or upper joint of the tarsus is relatively longer and slenderer than in *G. rhamni* and not so heavily clothed with appressed scales as in the latter. This is a very slight basis upon which to base a generic distinction. In all other respects, except size, the two forms appear to absolutely agree. The American species are among the giants of the

genus. But mere size should not constitute the basis for generic separation. Kirby and Röber have treated *Amynthia* Swainson as a pure synonym of *Gonepteryx* Leach. After careful consideration I pursue the same course.

Family NYMPHALIDÆ.

SUBFAMILY DANAINÆ.

Genus DANAIS Latreille.

**Danais plexippus** (Linnaeus). The Monarch Butterfly.

The question as to the proper specific name for the Monarch Butterfly has been elucidated by the recent researches of Captain N. D. Riley of the British Museum, who has examined the Linnean specimens, which are preserved in London (*Cf.* Trans. Ent. Soc. Lond., Vol. LXXVI, Pt. 2, Jan. 1929, p. 451).

Captain Riley has clearly shown that the specimens in the Linnean collection were rearranged by J. E. Smith, who served in the early days as their Curator, and took great liberties with them. Smith evidently transposed some of the labels. Riley says:

"As Dr. Verity has shown (*J. Linn. Soc., Zoöl.*, xxxii, p. 173, 1913), with a little practice it is possible to recognise from among the mass of specimens that now compose the 'Linnean collection,' preserved at the Linnean Society's rooms in Piccadilly, those specimens that were without doubt Linnean, in spite of the great additions made by Smith. Of the species involved in this discussion there are now 5 specimens in this collection, and I have no hesitation in saying that the only Linnean specimen is a solitary male of the N. American Monarch. It bears a label in Smith's writing "*archippus* Fab." On the other hand, one of the 4 non-Linnean specimens bears a label also in Smith's handwriting "*plexippus*," and, stranger still, a second label in Linné's own writing "80 *plexippus*!" (80 is the number of the species in *Syst. Nat.*, Ed. X). Linné could not have put this label on a specimen he never possessed. It is notorious that Smith extensively altered the Linnean collection from its original state, making additions, changing names and even from time to time giving away parts of it in exchange. It is justifiable therefore, I consider, to assume that Smith, when Fabricius had forced the adoption of the name in the later (*Mus. Ludov. Ulric*) sense, merely transferred the Linnean label from the real type specimen to one of his own specimens, so as to "keep the col-

lection up to date." The species is marked with an underscore in Linné's annotated copy of the 10th edition, indicating that it was represented in his collection. It is not underscored in his annotated copy of the 12th edition (*see* Jackson, Cat. Linn. Specimens, *Proc. Linn. Soc.*, Suppl. 1913)."

It is also very significant, as Riley has shown, that in the original manuscript of the *Systema Naturæ*, Ed. X, which is still extant, the note appended to the printed description of *plexippus*, which compares it with the following species, *i.e.* *chrysiippus*, is wanting. It was probably inserted by Linnæus when reading the proof.

From the foregoing it is evident that Linnæus had a specimen of the Monarch in his collection at the time he wrote his description of *plexippus*. His reference to Petiver's specimen, to Sloane's figure, and to Cramer's figure may therefore be disregarded. Catesby's figure, to which he refers, is a very good likeness of the insect which he had before him. Students are, therefore, right in giving the specific name *plexippus* to this North American insect. The Asiatic form will carry the name *genutia* Cramer, which has been applied to it by many authors. This of course runs counter to the opinion of Aurivillius, to which the writer until recently had been inclined to give way. (*Cf.* Transactions Fourth Int. Ent. Congress, p. 691). The writer now believes that the correct solution of this perplexing problem has been found, thus ending a discussion which has lasted for half a century. The specific name *menippe* Hübner is a pure synonym.

Under a strict application of the law of priority the name of the genus might be determined as being *Danaida* Latreille. Latreille, however, amended this to *Danais* (*Cf.* Holland, Bulletin Amer. Mus. Nat. Hist., XLIII, 1920, p. 118), which has almost universally since been employed by writers. There does not appear to me to be any good practical reason at this late date for restoring *Danaida*, though a few authors have recently employed it. The use of *Danaus* Linnæus is indefensible.

It may be proper at this point for the information of entomologists, who do not possess a classical education, to state that the word *Plexippus* derived from the Greek, πῖπος, ὄψῃ, while having a masculine termination, is of either gender, and in the combination *Danais plexippus* is feminine. The correct scientific name of the Monarch Butterfly is then *Danais plexippus* Linnæus. Under this

name I shall designate this insect in my new edition of *The Butterfly Book*, treating the generic name *Anosia* Scudder as a synonym.

Genus DYNOTHEA Reakirt.

This generic name should be sunk as a synonym of *Ithomia* Hübner.

(*To be continued*)